which has a supporting member and a binding body supporting member being separated from each other, is formed to be variably adjustable by arranging a supporting portion of the supporting member proximal to or distal to one or two guiding groove portions or a guiding elongated slot, thereby, as in the same manner as the second invention, the third invention is also able to reform a brush portion having a brush (bristles) of various height, in which the distal end of a toothbrush is supported by selecting either the one supporting portion or the other supporting portion for providing secure reformation.

According to the fourth invention (invention described in claim 4), a distal end of a toothbrush is inserted from an open side of an opened toothbrush supporting body; the opened side of the toothbrush supporting body is then closed, and a belt-like binding body is then operated to a direction opposite from the distal end of the toothbrush, thereby, a brush (bristles) of the toothbrush can be bound. Accordingly, as in the same manner as the first invention, this fourth invention can also provide secure binding of a brush.

According to the fifth invention (invention described in claim 5), one or two guiding groove(s) or the one or two guiding elongated slot(s) has or have an arc-like or wave-like shape in which the binding body or the endless binding body is inserted therethrough, or the one or two guiding groove(s) or the one or two guiding elongated slot(s) has a protrusion formed at a wall thereof or the toothbrush supporting body has a horizontal rod formed at a front surface thereof and the binding body or the endless binding body has a recessed groove or an elongated slot formed thereto to allow insertion of the protrusion or the horizontal rod through the recessed groove or the elongated slot, thereby, the fifth invention prevents the bristles of a brush from being caught into the guiding groove or the guiding elongated slot in operating with the binding body or the endless binding body and provide secure reformation.

According to the sixth invention (invention described in claim 6), a moving member moves in association with the binding body for binding the brush; accordingly, the thus structured invention can also provide secure binding of a brush.

CLAIM

1. A brush reforming apparatus for a toothbrush comprising:

a toothbrush supporting body having;

a supporting portion supporting at least a bottom surface of a distal end of a toothbrush; and

one or two guiding groove portion(s) or one or two guiding elongated slot(s) being formed above the distal end of the toothbrush supported by the supporting portion; and

a binding body having a belt-like shape, the binding body being inserted through the one or two guiding groove portion(s) or the one or two guiding elongated slot(s), and the binding body being bent at

a center of the binding body into a U letter, a V letter, or a rectangular C letter shape.

2. A brush reforming apparatus for a toothbrush comprising:

a toothbrush supporting body having;

one supporting portion supporting at least a bottom surface of a distal end of a toothbrush;

other supporting portion being formed opposite to a position where the one supporting portion is formed, the other supporting portion supporting at least the bottom surface of the distal end of the toothbrush, and the other supporting portion supporting from at a position above or below a supporting position of the one supporting portion; and

one or two guiding groove portion(s) or one or two guiding elongated slot(s) being formed between the one supporting portion and the other supporting portion, and being formed above the distal end of the toothbrush supported by the one supporting portion or the other supporting portion; and

an endless binding member having a belt-like shape and being inserted through the one or two guiding groove portion(s) or the one or two guiding elongated slot(s).

3. The brush reforming apparatus for a toothbrush according to claim 1 or 2,
wherein the toothbrush supporting body has a supporting member formed with a supporting portion supporting at least a bottom surface of a distal end of the toothbrush, and a binding body supporting member being attachable to the supporting member while having the one or two guiding groove portion(s) or the one or two guiding elongated slot(s) formed thereto; and
wherein the supporting member and the binding body supporting member are attached variably and adjustably for arranging a position of a supporting portion formed in the supporting member and a position of the one or two guiding groove portion(s) or the one or two guiding elongated slot(s) separate from or proximate to each other.

4. A brush reforming apparatus for a toothbrush comprising:

a toothbrush supporting body having;

a supporting portion having a plane shape molded into a substantially V letter shape, the supporting portion having an open side thereof being closable, the supporting portion supporting a bottom surface of a distal end of a toothbrush during a closed state;

one guiding groove portion or one guiding elongated slot formed on one side of the open side;

other guiding groove portion or other guiding elongated slot formed on the other side of the open side; and

a binding body having a belt-like shape, the binding body being bent at a center thereof into an

arc-like shape; the binding body having a midsection on one end thereof for insertion through the one guiding groove portion or the one guiding elongated slot; and the binding body having a midsection on the other end thereof for insertion through the other guiding groove portion or the other guiding elongated slot.

5. The brush reforming apparatus for a toothbrush according to claim 1, 2, 3, or 4, wherein the one or two guiding groove(s) or the one or two guiding elongated slot(s) has or have an arc-like or wave-like shape in which the binding body or the endless binding body is inserted therethrough, or the one or two guiding groove(s) or the one or two guiding elongated slot(s) has a protrusion formed at a wall thereof or the toothbrush supporting body has a horizontal rod formed at a front surface thereof and the binding body or the endless binding body has a recessed groove or an elongated slot formed thereto to allow insertion of the protrusion or the horizontal rod through the recessed groove or the elongated slot.

6. A brush reforming apparatus for a toothbrush comprising:

a binding body or an endless binding body having a belt-like shape, and a midsection bent in an arc-like shape to form an arc-like portion;

a supporting portion being fixed proximate to the arc-like portion of the binding body or the endless binding body, and supporting at least a bottom surface of a distal end of a toothbrush; and

a moving member being movable in a direction toward the supporting portion or a direction opposite from the supporting portion while being guided by the binding body or the endless binding body, the moving member being formed with an elongated slot or a groove portion for inserting the binding body or the endless binding body therethrough.

ABSTRACT OF THE DISCLOSURE

A brush reforming apparatus for reforming a toothbrush includes a toothbrush supporting body 2 having a supporting portion 2a for supporting at least a bottom surface of a distal end of a toothbrush T, and one or two guiding groove portion(s) or one or two guiding elongated slot portion(s) 2e, 2f formed above the distal end of the toothbrush T supported by the supporting portion 2a, and a belt-like binding body having a middle portion bent in a shape of a letter "U", a letter "V" or a rectangular shaped letter "C" for being inserted into the one or two guiding groove portion(s) or the one or two guiding elongated slot portion(s) 2e, 2f. The brush reforming apparatus for reforming a toothbrush enables reform in correspondence with shapes of brush portions of various toothbrushes at an inexpensive manufacturing cost.